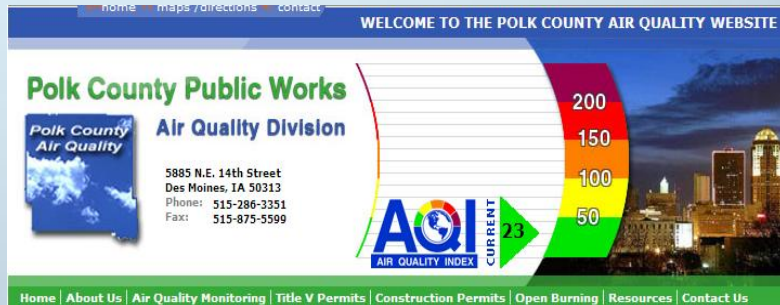


COMMERCIAL DATA SYSTEMS AGILAIRE-AIRVISION, AGILEWEB

Jennifer Bradley, Polk County-Air Quality
Des Moines, IA

Inform Locally, Transmit Globally

- ▣ Polk County's Website



- ▣ AQS – XML Format



- ▣ AIRNow - AQCSV Format



Our Website

- ▣ AgileWeb is a plug and play template that connects directly to AirVision
- ▣ Initial page allows us to use any kind of image file as a background map, and locate sites within that image



AQI Summary Table

<u>AQI Index</u>
Good
Moderate
Unhealthy for Sensitive Groups
Unhealthy
Very Unhealthy
Hazardous

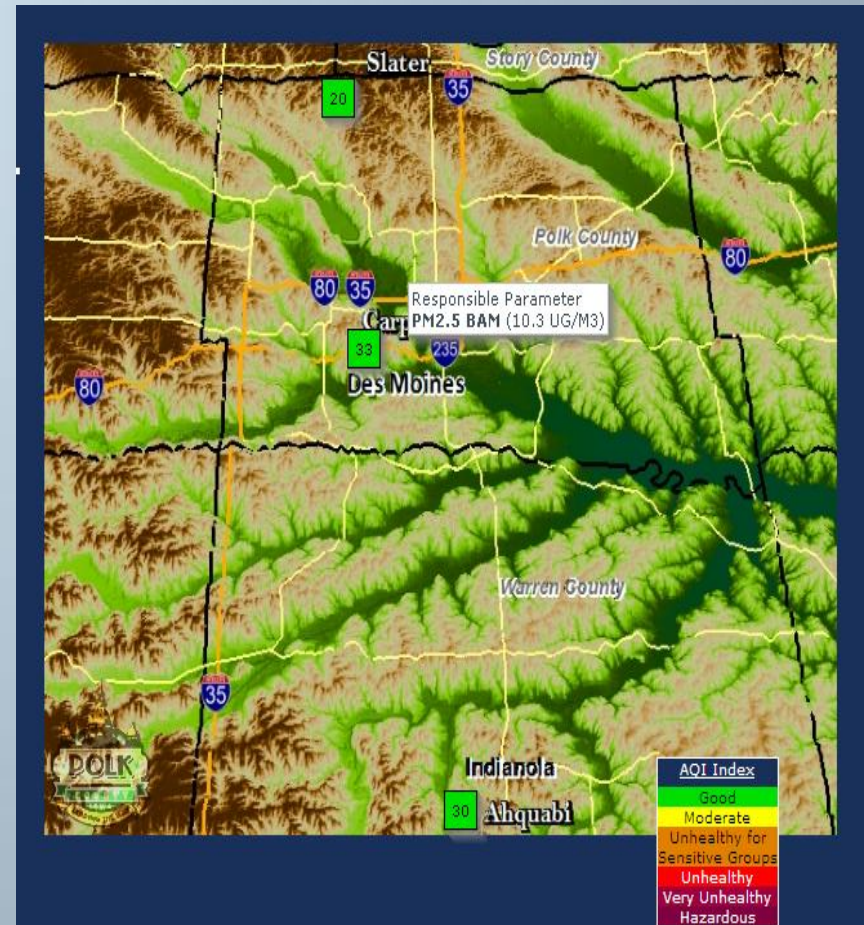


Current Air Quality and Tomorrow's Forecast (click to close)

Site	AQI	Class	Responsible Pollutant	Activity Caution	Risk Groups	Forecast
<u>Carpenter</u>	33	good	PM2.5 BAM	None	None	???
<u>Ahquabi</u>	32	good	OZONE	None	None	???
<u>Slater</u>	26	good	OZONE	None	None	???

Our Website – Real-Time Data

- ▣ Boxes show current AQI with mouse roll-over to show responsible pollutant and concentration.



What's in the Box?

33



[Map](#) - [Data History](#)

Carpenter
Address:1907 Carpenter
City:Des Moines
Climate Zone:Mid West



Monitored Parameters:
Trace CO, NO2, OZONE, TLSO2, BAM PM2.5

ARB Link: <http://www.polkcountyiowa.gov/airquality/Pages/Monitoring.aspx>

Hour	AQI	Class	Responsible Pollutant	Activity Caution	Risk Groups
10:00	33	Good	PM2.5 BAM	None	None
09:00	32	Good	PM2.5 BAM	None	None
08:00	32	Good	PM2.5 BAM	None	None
07:00	32	Good	PM2.5 BAM	None	None
06:00	32	Good	PM2.5 BAM	None	None
05:00	31	Good	PM2.5 BAM	None	None
Forecast High for Tomorrow					

AirVision – AQI Program Editor

- Verify the parameter and unit codes
- Check ozone surrogate/Convoy estimate settings
- Determine AQI averaging method
- Determine Activity Caution/Risk Group message – pollutant

Main Navigation

- Configuration Editors
 - Data Source Details
 - E-mail Alarm Trigger Editor
 - Favorites Editor
 - FileImport Configuration
 - Flags Editor
 - GSI Driver Editor
 - My Favorites Editor
 - Notification Subscriptions
 - Parameter Template Editor
 - Report Configurations
 - AIRNow/FTP Setup
 - AQI Program Editor
 - Frequency Distribution Editor
 - Report Logo Editor
 - Violation of Standards Editor
 - Wind Rose Levels Editor
- Security
 - Server Configuration
 - Site/Parameter
 - Task Scheduler
- Configuration Editors
- Data Editors
- Reports

AQI Program Editor

AQI Program Selection

Drag a column header here to group by that column.

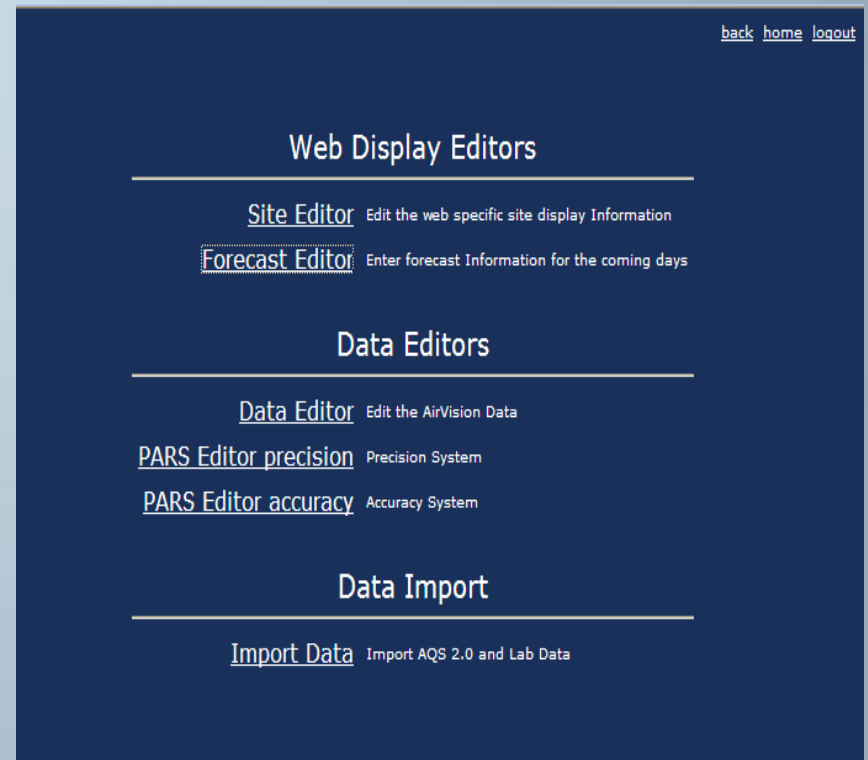
Program Name	AQS Parameter Type	AQS Unit Type	Average Interval	Enabled	Averaging	Averaging Direction	Rounding Method	Decimal Positioner	Average Period
CO	42101 - Carbon Monoxide	007 - Parts per million	001h	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	1	8
NO2	42602 - Nitrogen Dioxide	008 - Parts per billion	001h	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	2	1
Ozone1h	44201 - Ozone	008 - Parts per billion	001h	<input type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	0	1
Ozone8h	44201 - Ozone	008 - Parts per billion	001h	<input type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	0	8
OzonePPM	44201 - Ozone	007 - Parts per million	001h	<input type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	3	1
OzonePPM8	44201 - Ozone	007 - Parts per million	001h	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	3	8
PM10	88102 - Antimony Pm2.5 Lc	001 - Micrograms/cubic	001h	<input type="checkbox"/>	<input type="radio"/> Rolling <input checked="" type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	0	24
PM2.5	88502 - Acceptable Pm2.5	105 - Micrograms/cubic	001h	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	1	24
SO2	42401 - Sulfur Dioxide	008 - Parts per billion	001h	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	3	24
SO2PPM	42401 - Sulfur Dioxide	007 - Parts per million	001h	<input type="checkbox"/>	<input checked="" type="radio"/> Rolling <input type="radio"/> Block	<input type="radio"/> Forward <input checked="" type="radio"/> Backward	<input type="radio"/> Truncate <input checked="" type="radio"/> Round	3	24

AQI Level Selection

Pollutant Level	Sub Index	Description	Color	Font Color	Sensitive Groups	Health Effects	Health Advisory
15.4	50	Good	0, 228, 0	0, 0, 0	None	None	None
35.4	100	Moderate	255, 255, 0	0, 0, 0	People with respir	Respiratory symp	Unusually sensitiv
65.4	150	Unhealthy for Sensitive Groups	255, 126, 0	0, 0, 0	People with respir	Increasing likelih	People with heart
150.4	200	Unhealthy	255, 0, 0	0, 0, 0	People with respir	Increased aggrav	People with heart
250.4	300	Very Unhealthy	153, 0, 76	255, 255, 0	People with respir	Significant aggra	People with heart
350.4	400	Hazardous	126, 0, 35	255, 255, 0	People with respir	Serious aggravati	Everyone should
500.4	500	Hazardous	126, 0, 35	255, 255, 0	People with respir	Serious aggravati	Everyone should

AgileWeb - Admin

- ▣ Links to web display editors
 - Site Editor
 - Forecast Editor
- ▣ Data Editors




AgileWeb – Site Editor

- ▣ Configure location of Site Box on map
- ▣ Configure Site page information
 - Site Image
 - Climate Zone

Site Editor

	SiteName	Description	X	Y	ClimateZone	Display
Select	Carpenter	Carpenter1	260	197	Mid West	<input checked="" type="checkbox"/>
Select	Slater		240	46	Mid West	<input checked="" type="checkbox"/>
Select	Ahquabi	Lake Ahquabi South of Indianola	335	475	Mid West	<input checked="" type="checkbox"/>
Select	Ahquabi Dup	Ahquabi Duplicate Ozone	200	200	unknown	<input type="checkbox"/>
Select	Ahquabi Dup	Ahquabi Duplicate Ozone	200	200	unknown	<input type="checkbox"/>
Select	Carpenter Dup	Carpenter Duplicate BAM and Ozone	200	200	unknown	<input type="checkbox"/>
Select	Carpenter Dup	Carpenter Duplicate BAM and Ozone	200	200	unknown	<input type="checkbox"/>
Select	Slater Dup	Slater Duplicate Ozone	200	200	unknown	<input type="checkbox"/>



Editing: Carpenter

X - (left - right) 0 - 570

Y - (top - bottom) 0 - 500

Site Image Path

Climate Zone

ArbLink

Display ☒

Update Cancel

AgileWeb – Forecast Editor

- Enter concentration
- Select Pollutant from drop-down

ForeCast Editor

Select the Forecast Start Date

Wednesday, May 02, 2012

SiteName	Concentration	Pollutant	AQI
Ahquabi	<input type="text"/>	???	▼
Carpenter	<input type="text"/>	???	▼
Slater	<input type="text"/>	???	▼

< May 2012 >						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

Save Forecast Information

Thursday, May 03, 2012

SiteName	Concentration	Pollutant	AQI
Ahquabi	<input type="text"/>	???	▼
Carpenter	<input type="text"/>	???	▼
Slater	<input type="text"/>	???	▼

Friday, May 04, 2012

SiteName	Concentration	Pollutant	AQI
Ahquabi	<input type="text"/>	???	▼
Carpenter	<input type="text"/>	???	▼
Slater	<input type="text"/>	???	▼

Agileweb – Data Reports

- ▣ Data Report pages allow website users to query historical data in a variety of forms
 - HTML Table
 - Time-series Graph
 - CSV Download
 - AQS text or XML Download

Data Reports [map](#)

Select Site:
Carpenter
Ahquabi
Slater

Select Parameters:
Carpenter:Wind Speed (MPH)
Carpenter:Wind Direction (DEG)
Carpenter:Ambient Temperature (DEGC)
Carpenter:Relative Humidity (PERCENT)
Carpenter:TRACE CO (PPM)
Carpenter:NO (PPM)
Carpenter:NO2 (PPM)
Carpenter:NOX (PPM)
Carpenter:OZONE (PPM)
Carpenter:TRACE SO2 (PPB)
Carpenter:PM2.5 BAM (UG/M3)

Data Average Interval: 001h
☒ Average Data ☐ Sample Data

Select From
Date: 2/10/2011
Hour: 00 : 00

February 2011						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

Select To
Date: 2/11/2011
Hour: 23 : 00

February 2011						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

Select Output Format
☒ HTML Table
☐ Graph
☐ CSV File (Download)
☐ XML File (Download)
☐ TXT File (Download)

Generate Report

AirVision-Parameter Templates

- Determine Parameter Name
- Determine if data is available for website
- Designate Graph Ranges
- More options?

Site: Carpenter

Parameter: PM2.5 BAM

Parent Parameter:

Parameter Template: PM25LC

Apply

Enabled: ☒ Enable AIRNow Reporting: ☒

Filter From Web Site: ☐

Parameter Data Type: ☒ Average (Continuous) ☐ Composite Sample ☐ Particulate Sample

Description: PM2.5 Total Mass Manual Met

EPA POC: 1

EPA Method: 731

EPA Units: 105 - Micrograms/cubic me

EPA Parameter: 88502 - Acceptable Pm2

Reported Digits: 4

Precision: 1 X

Truncate Round Rule: ☐ Round ☒ Truncate

Reported Units: UG/M3

Analyzer Units (if different):

Graph Minimum: 0.00

Graph Maximum: 50.00

Calibration Span:

Instrument Detection Limit:

Limit Of Quantization:

Minimum Detectable Limit:

Practical Quantization Limit:

Parameter Report Order:

☐ Totalize in Reports ☐ Minimum in Reports

AirVision- Site/Parameter

Site: Carpenter Parameter: PM2.5 BAM Parent Parameter:

Parameter Template: PM25LC Apply

Enabled: ☒ Enable AIRNow Reporting: ☒ Filter From Web Site: ☐

Parameter Data Type: ☒ Average (Continuous) ☐ Composite Sample ☐ Particulate Sample

Description: PM2.5 Total Mass Manual Met

EPA POC: 1

EPA Method: 731

EPA Units: 105 - Micrograms/cubic me

EPA Parameter: 88502 - Acceptable Pm2

Reported Digits: 4

Precision: 1 X

Truncate Round Rule: ☐ Round ☒ Truncate

Reported Units: UG/M3

Analyzer Units (if different):

Graph Minimum: 0.00

Graph Maximum: 50.00

Calibration Span:

Instrument Detection Limit:

Limit Of Quantization:

Minimum Detectable Limit:

Practical Quantization Limit:

Parameter Report Order:

☐ Totalize in Reports ☐ Minimum in Reports

AgileWeb Display

Data Reports map

Select Site: Carpenter Ahquabi Slater

Data Average Interval: 001h

Average Data ☒ Sample Data ☐

Select From

Date: 2/10/2011

Hour: 00 : 00

Select To

Date: 2/11/2011

Hour: 23 : 00

Select Output Format

☒ HTML Table ☐ Graph ☐ CSV File (Download) ☐ XML File (Download) ☐ TXT File (Download)

Generate Report

Select Parameters:

Carpenter:Wind Speed (MPH)
Carpenter:Wind Direction (DEG)
Carpenter:Ambient Temperature (DEGC)
Carpenter:Relative Humidity (PERCENT)
Carpenter:TRACE CO (PPM)
Carpenter:NO (PPM)
Carpenter:NO2 (PPM)
Carpenter:NOX (PPM)
Carpenter:OZONE (PPM)
Carpenter:TRACE SO2 (PPB)
Carpenter:PM2.5 BAM (UG/M3)

AirVision- Site/Parameter

AgileWeb Graph Display

Site: Carpenter Parameter: PM2.5 BAM

Parameter Template: PM25LC

Apply

Enabled: ☒ Enable AIRNow Reporting: ☒

Filter From Web Site: ☐

Parameter Data Type: ☒ Average (Continuous) ☐ Composite Sample ☐ Particulate Sample

Description: PM2.5 Total Mass Manual Met

EPA POC: 1

EPA Method: 731

EPA Units: 105 - Micrograms/cubic me

EPA Parameter: 88502 - Acceptable Pm2

Reported Digits: 4

Precision: 1 X

Truncate Round Rule: ☐ Round ☒ Truncate

Reported Units: UG/M3

Analyzer Units (if different):

Graph Minimum: 0.00

Graph Maximum: 50.00

Calibration Span:

Instrument Detection Limit:

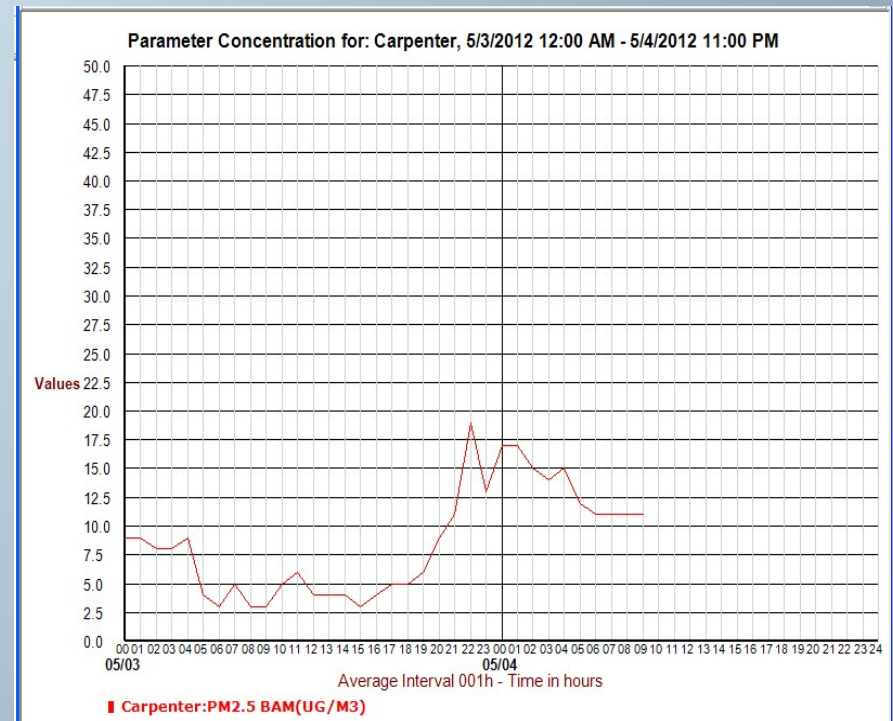
Limit Of Quantization:

Minimum Detectable Limit:

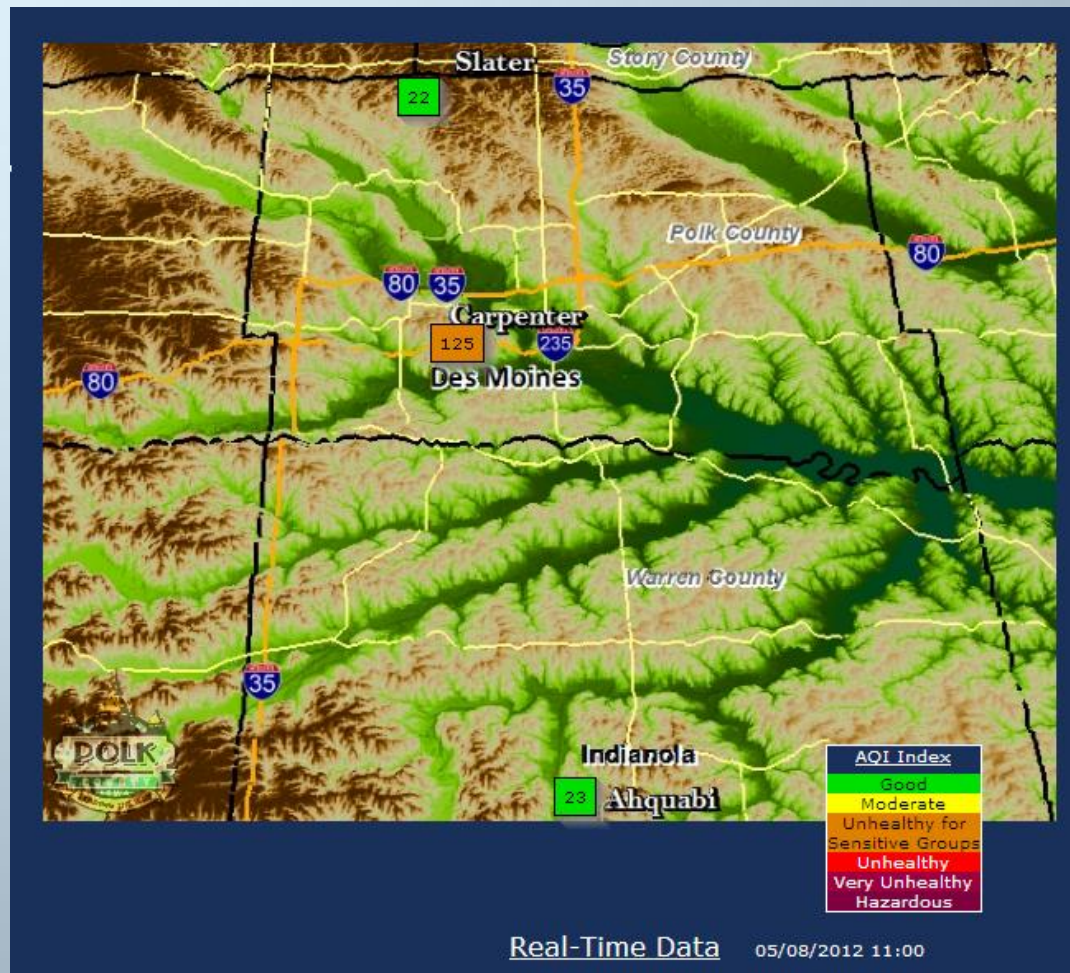
Practical Quantization Limit:

Parameter Report Order:

☐ Totalize in Reports ☐ Minimum in Reports

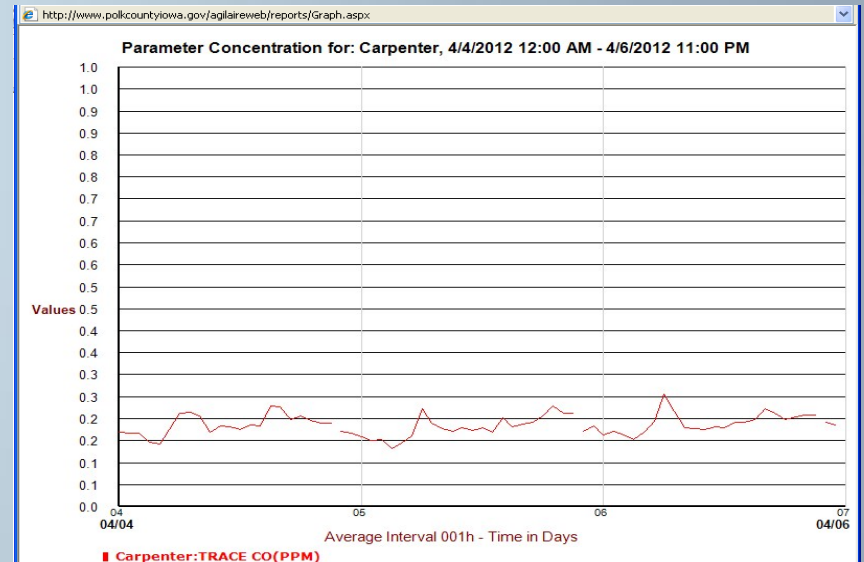


How do we exclude flagged data from our website?



Filtering Flags:

- By default, AgileWeb will exclude invalid data (<75%) from AQI
- Graphs show invalid data as blanks
- HTML tables flagged with <

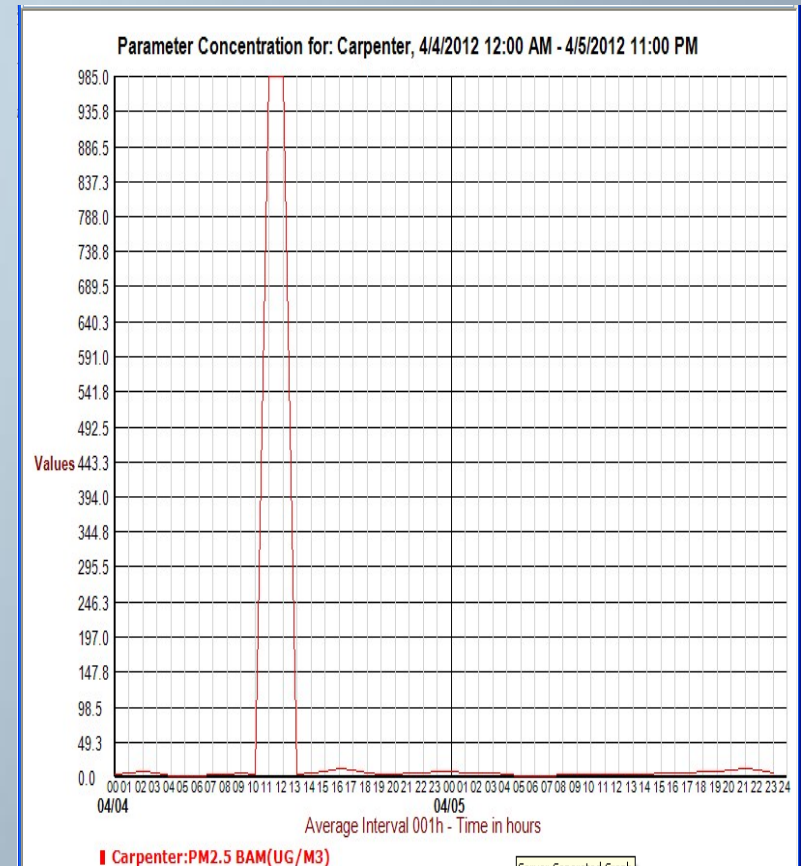


Parameter Concentration for: Carpenter,
5/1/2012 12:00 AM - 5/1/2012 11:00 PM

Average 001h Carpenter:OZONE(PPM)	
05/01/2012 12:00	0.0205
05/01/2012 01:00	0.0217
05/01/2012 02:00	0.0217
05/01/2012 03:00	0.0726 Ch<
05/01/2012 04:00	0.0171
05/01/2012 05:00	0.0111
05/01/2012 06:00	0.0085
05/01/2012 07:00	0.0114
05/01/2012 08:00	0.0156
05/01/2012 09:00	0.0317 <CM
05/01/2012 10:00	0.0254 <CM
05/01/2012 11:00	0.0450
05/01/2012 12:00	0.0496
05/01/2012 01:00	0.0505

What about Direct Instrument Poll?

- ❑ No logger → no data flags
- ❑ No good way to exclude 985 without additional data validation check
- ❑ Agilaire offers a 'single ADVP rule' for BAM polling to invalidate 985 data from AQI
- ❑ But 985 still included in graphs



If we had full ADVP:

- ▣ A 'check' can be scheduled to run with the polling task:

- ▣ ADVP Rules can also use 'suspect' flags and "Data Grade" for additional filtering

The screenshot displays the ADVP Rule Configuration interface, divided into two main sections: Rule Information and Conditions Triggering Rule.

Rule Information

Rule Details

Rule Name: BAM_GT_984

☒ Enabled

Description:

Average Interval: 001h

Time Out: Number of Intervals

Actions

Site: [Dropdown]

Assign Value: 0.000000

Parameter Template: PM25LC

Assign Data Grade: [Dropdown]

Apply Null Code: AN - Machine Malfunction

Apply Flag: < - Logger Invalid

Clear Null Code: [Dropdown]

Clear Flag: [Dropdown]

Add Annotation Text

Subject: BAM 985 Error ☐ Tag email Ugent

Email Message:

Conditions Triggering Rule

Condition List

+ Add Condition - Delete Condition

Condition Number	Logical Operator to Next
1	

Condition Details

Condition Number: 1

Comparison Type

Characteristic: Value Relationship: Greater Than

Compare

Site: [Dropdown] Parameter Template: PM25LC

To

Value Comparison Type

☒ Fixed Value Fixed Value: 984.000000

☐ Historical Average

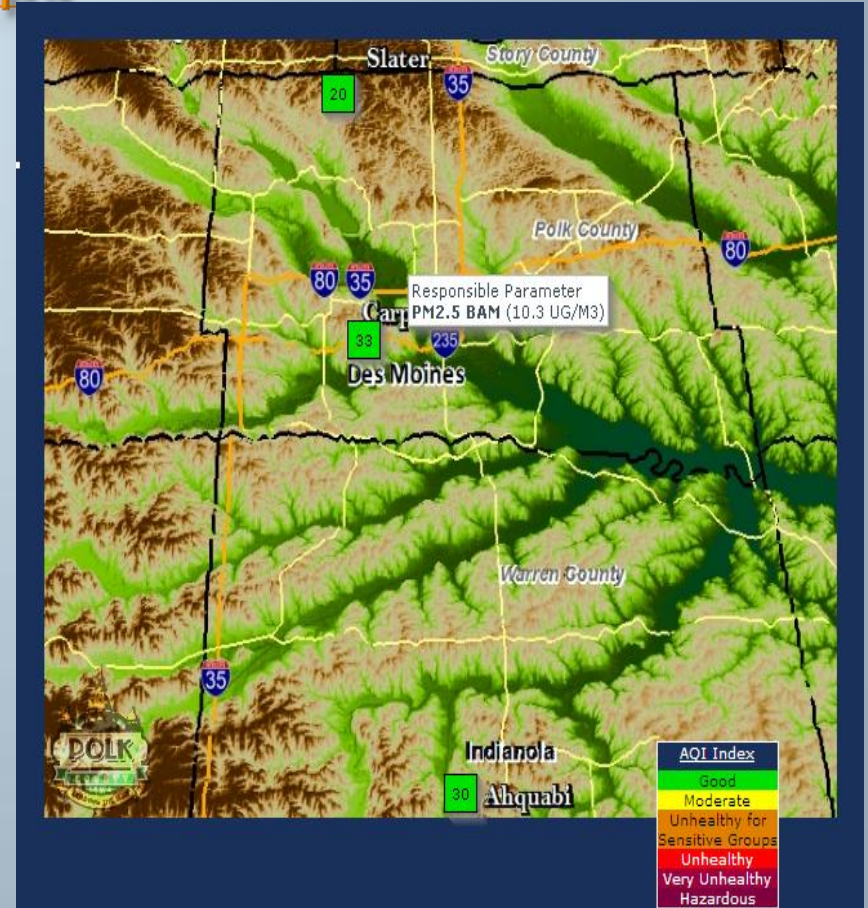
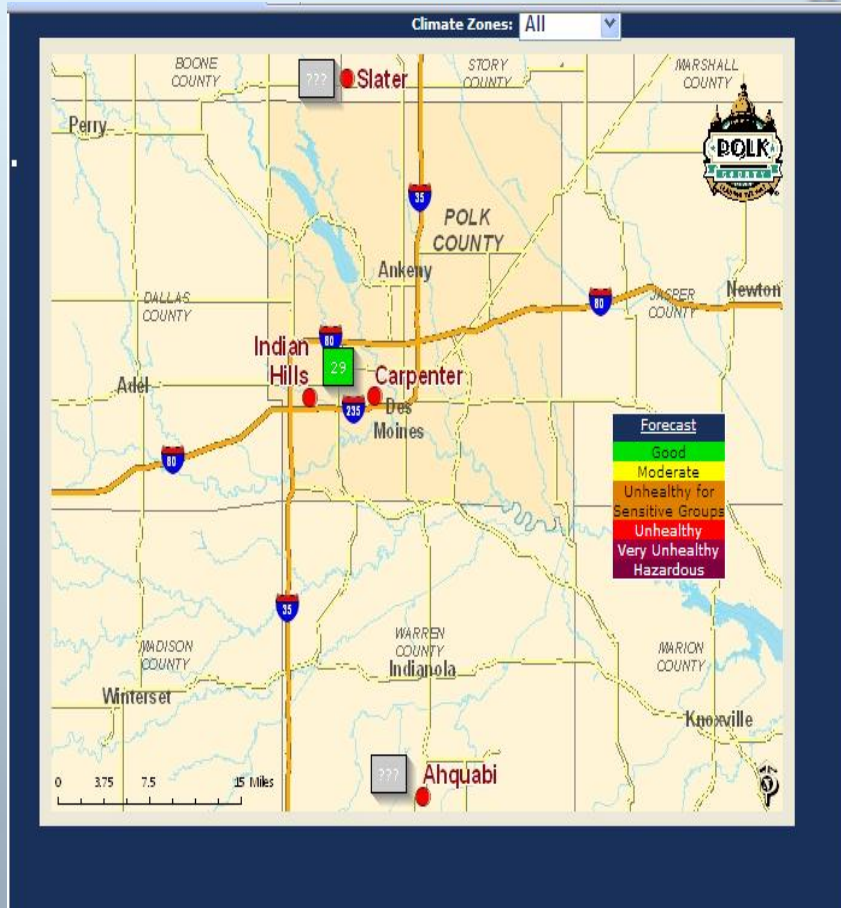
☐ Historical Composite Historical Composite Years: [Dropdown] +/- Days: [Dropdown]

☐ Parameter Value Parameter Template: [Dropdown] [Site]: [Dropdown]

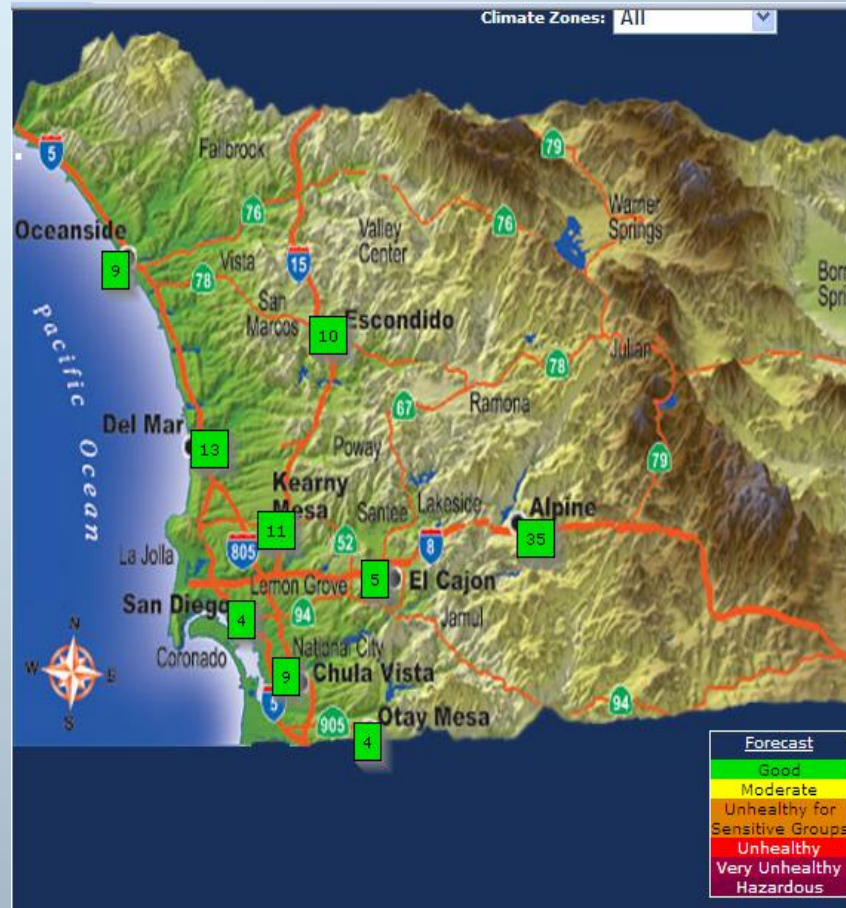
Relation to Next Condition: [Dropdown]

Polk County – Air Quality Division

www.polkcountyiowa.gov/airquality/pages/CurrentAQI.aspx

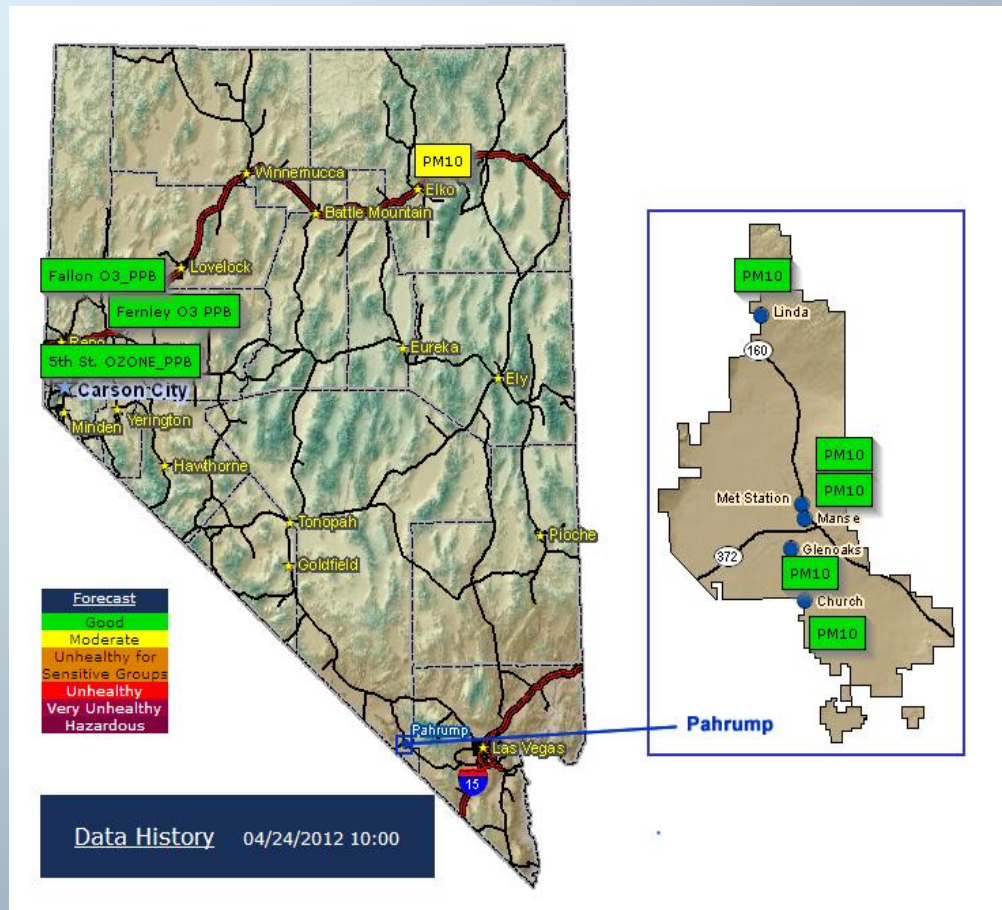


Air Pollution Control District County of San Diego



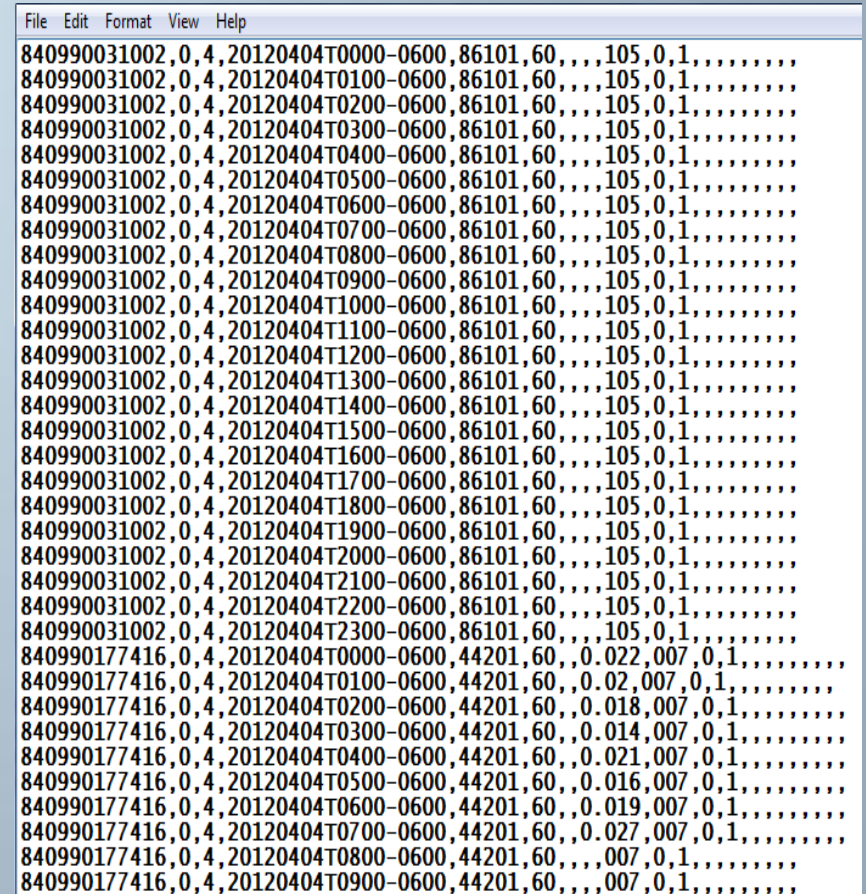
State of Nevada: Bureau of Air Quality Planning

<http://nvair.ndep.nv.gov>



AIRNow – AQCSV Format

- ▣ July 1, 2012: start using AQCSV format for AIRNow uploads
- ▣ AirVision does not currently provide for AQCSV submissions
 - An option is available to easily add the reporting module
 - Only compatible with AirVision



The screenshot shows a text editor window with a menu bar (File, Edit, Format, View, Help) and a list of data rows. Each row represents a data point in AQCSV format, consisting of a station ID, a date-time string, a pollutant code, a value, and several flags. The data is organized into two groups: one for station 840990031002 (pollutants T0000 through T0900) and another for station 840990177416 (pollutants T0000 through T0900). The values for the pollutants are mostly 0.0, with some non-zero values for the T0000 pollutant in the second group.

```
File Edit Format View Help
840990031002,0,4,20120404T0000-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0100-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0200-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0300-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0400-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0500-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0600-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0700-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0800-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T0900-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1000-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1100-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1200-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1300-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1400-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1500-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1600-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1700-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1800-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T1900-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T2000-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T2100-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T2200-0600,86101,60,,,105,0,1,,,,,,,,,
840990031002,0,4,20120404T2300-0600,86101,60,,,105,0,1,,,,,,,,,
840990177416,0,4,20120404T0000-0600,44201,60,,0.022,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0100-0600,44201,60,,0.02,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0200-0600,44201,60,,0.018,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0300-0600,44201,60,,0.014,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0400-0600,44201,60,,0.021,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0500-0600,44201,60,,0.016,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0600-0600,44201,60,,0.019,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0700-0600,44201,60,,0.027,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0800-0600,44201,60,,007,0,1,,,,,,,,,
840990177416,0,4,20120404T0900-0600,44201,60,,007,0,1,,,,,,,,,
```

AIRNow – Setup in AirVision

- ▣ An AIRNow FTP transfer program must be set up
- ▣ The parameters must be enabled and a mnemonic name must be set up in Parameter Templates
- ▣ The parameters to be sent must be enabled for transfer in Site/Parameter
- ▣ A scheduled task must be set up to FTP the data

AirVision - AIRNow/FTP Setup

- Click Add FTP Program to access this screen:

The screenshot displays the 'AIRNow/FTP Setup' window. At the top left, there are buttons for 'Add FTP Program' (green plus) and 'Delete FTP Program' (red X). Below these is a 'Main Navigation' pane with a 'Configuration Editors' section containing a list of editors: Data Source Details, E-mail Alarm Trigger Editor, Favorites Editor, FileImport Configuration, Flags Editor, GSI Driver Editor, My Favorites Editor, Notification Subscriptions, Parameter Template Editor, and Report Configurations. The main content area is divided into two panes. The left pane, 'AIRNow FTP Program Selection', shows a table with two columns: 'Program Name' and 'Enabled'. It lists 'AIRNOW' with a checked 'Enabled' box. The right pane, 'AIRNow Transfer Details', contains the following fields and values:

Field	Value
Program Name	AIRNOW
Agency	ia2
FTP Host	ftp.airnowdata.org
Directory	/incoming/data/
User Name	shcoperator
Enable?	<input checked="" type="checkbox"/>
AIRNow?	<input checked="" type="checkbox"/>
Port	21

A 'Set User Password' button is located at the bottom of the 'AIRNow Transfer Details' pane.

- All AIRNow Transfer details are provided by the EPA

AirVision - Parameter Template Editor

- ▣ Enable for AIRNow Reporting
- ▣ Setup mnemonic name

The screenshot displays the 'Parameter Template Editor' window. On the left, the 'Main Navigation' pane shows 'Configuration Editors' with a list of tools including 'Data Source Details', 'E-mail Alarm Trigger Editor', 'Favorites Editor', 'File Import Configuration', 'Flags Editor', 'GSI Driver Editor', 'My Favorites Editor', 'Notification Subscriptions', 'Parameter Template Editor', 'Report Configurations', 'AIRNow/FTP Setup', 'AQI Program Editor', 'Frequency Distribution Editor', 'Report Logo Editor', 'Violation of Standards Editor', 'Wind Rose Levels Editor', 'Security', 'Server Configuration', 'Site/Parameter', and 'Task Scheduler'. The 'Parameter Template Editor' is selected, showing a list of parameters on the left: 'NOYDIF', 'O3_GEN', 'O3_REF', 'O3_SAMPLE_FLOW', 'O3_SAMPLE_PRESS', 'OC', 'OZONE', 'OZONE_PPB', 'OZONE_PPHM', 'PM10', 'PM10_CONTIN', 'PM10C_CONTIN', 'PM25', 'PM25LC', 'PM25VOL', 'PMAMBTEMP', 'PMAUXFLOW', 'PMBARPRESS', 'PMCATEMP', 'PMCASETEMP', and 'PMCOARSE'. The 'PM25LC' parameter is selected. The configuration fields on the right include: 'Parameter: PM25LC', 'Description: PM2.5 Total Mass Manual Method Local Conditions', 'AIRNow Mnemonic: PM2.5', 'Math Equation: (if Calculated)', 'EPA POC: 1', 'EPA Method: 731', 'EPA Units: 105 - Micrograms/cubic mete', 'EPA Parameter: 88502 - Acceptable Pm2', 'Reported Digits: 4', 'Precision: 1', 'Truncate Round Rule: Round Truncate', 'Reported Units: UG/M3', 'Analyzer Units (if different):', 'Graph Minimum: 0.00', 'Graph Maximum: 100.0', 'Calibration Span:', 'Instrument Detection Limit:', 'Limit Of Quantization:', 'Minimum Detectable Limit:', 'Practical Quantization Limit:', 'Totalize in Reports', and 'Minimum in Reports'. Red circles highlight the 'AIRNow Mnemonic' field and the 'Enable AIRNow Reporting' checkbox.

- ▣ **NOTE:** AIRNow uses mnemonic names to recognize a data type, and to know where to store the data

AirVision - Site/Parameter

▣ Enable for AIRNow Reporting

The screenshot displays the 'Site/Parameter' configuration window in the AirVision software. The left sidebar shows the 'Configuration Editors' menu with options like 'Data Source Details', 'E-mail Alarm Trigger Editor', 'Favorites Editor', 'FileImport Configuration', 'Flags Editor', 'GSI Driver Editor', 'My Favorites Editor', 'Notification Subscriptions', 'Parameter Template Editor', 'Report Configurations', 'AIRNow/FTP Setup', 'AQI Program Editor', 'Frequency Distribution Editor', 'Report Logo Editor', 'Violation of Standards Editor', 'Wind Rose Levels Editor', 'Security', 'Server Configuration', 'Site/Parameter', and 'Task Scheduler'. The main window is titled 'Site: Carpenter Parameter: PM2.5 BAM'. It contains several sections: 'Site' (Carpenter), 'Parameter' (PM2.5 BAM), and 'Parent Parameter'. The 'Enabled' checkbox is checked. The 'Enable AIRNow Reporting' checkbox is also checked and highlighted with a red circle. The 'Filter From Web Site' checkbox is unchecked. The 'Parameter Data Type' is set to 'Average (Continuous)'. The 'Description' is 'PM2.5 Total Mass Manual Method'. The 'Math Equation' is empty. The 'EPA POC' is 1. The 'EPA Method' is 731. The 'EPA Units' are '105 - Micrograms/cubic meter'. The 'EPA Parameter' is '88502 - Acceptable Pm2.5 A'. The 'Reported Digits' are 4. The 'Precision' is 1. The 'Truncate Round Rule' is set to 'Truncate'. The 'Reported Units' are 'UG/M3'. The 'Analyzer Units (if different)' are empty. The 'Graph Minimum' is 0.00. The 'Graph Maximum' is 50.00. The 'Calibration Span' is empty. The 'Instrument Detection Limit' is empty. The 'Limit Of Quantization' is empty. The 'Minimum Detectable Limit' is empty. The 'Practical Quantization Limit' is empty. The 'Parameter Report Order' is empty. The 'Totalize in Reports' and 'Minimum in Reports' checkboxes are unchecked.

Configuration Editors

- Data Source Details
- E-mail Alarm Trigger Editor
- Favorites Editor
- FileImport Configuration
- Flags Editor
- GSI Driver Editor
- My Favorites Editor
- Notification Subscriptions
- Parameter Template Editor
- Report Configurations
- AIRNow/FTP Setup
- AQI Program Editor
- Frequency Distribution Editor
- Report Logo Editor
- Violation of Standards Editor
- Wind Rose Levels Editor
- Security
- Server Configuration
- Site/Parameter
- Task Scheduler

Parameter Template Editor

Site: Carpenter Parameter: PM2.5 BAM

Site: Carpenter

Parameter: PM2.5 BAM

Parent Parameter:

Enabled: ☒ Enable AIRNow Reporting: ☒

Filter From Web Site: ☐

Parameter Data Type: ☒ Average (Continuous) ☐ Composite Sample ☐ Particulate Sample

Description: PM2.5 Total Mass Manual Method

Math Equation: (if Calculated)

EPA POC: 1

EPA Method: 731

EPA Units: 105 - Micrograms/cubic meter

EPA Parameter: 88502 - Acceptable Pm2.5 A

Reported Digits: 4

Precision: 1

Truncate Round Rule: ☐ Round ☒ Truncate

Reported Units: UG/M3

Analyzer Units (if different):

Graph Minimum: 0.00

Graph Maximum: 50.00

Calibration Span:

Instrument Detection Limit:

Limit Of Quantization:

Minimum Detectable Limit:

Practical Quantization Limit:

Parameter Report Order:

☐ Totalize in Reports ☐ Minimum in Reports

AirVision - Task Scheduler

1. Add -> Scheduled Report Task
2. Choose AQCSV Report
3. Select Site/Parms
4. Select Output -> File Output Options (as Text)
5. Set "Append Date to Name", MMddyy
6. Set correct file name extension (your agency code)
7. Use existing FTP Program
8. Leave file name blank

The screenshot shows the 'Task Details' window for a 'Scheduled Report Task'. The 'General' tab is active. The 'Basic Task Information' section shows 'Task Name: Scheduled Report Task' and 'Task Enabled: ☒'. The 'Task Description' is 'Generates Report at assigned time for output'. The 'Report Task Options' section shows 'Report: AIRNOW CSV Text Report' and a 'Configure Report Query' button. The 'Output Options' section has tabs for 'Printing Options', 'Notification Options', and 'File Output Options'. Under 'File Output Options', 'Output File Type' is 'Export File as Text'. The 'File Name Construction' section shows 'File Output Base Name' (blank), 'File Extension: tn1', and 'Append Date to File Name' (checked). The 'Date Format' is 'MMddyy'. The 'Save File Options' section shows 'Save Report to File Enabled' (checked) and 'File Output Path' (blank). The 'Upload File Via FTP Options' section shows 'FTP Upload Enabled' (checked) and 'FTP Transfer Program: AIRNow'.

Task Details

General Advanced

Basic Task Information

Task Name: Scheduled Report Task Task Enabled: ☒

Task Description: Generates Report at assigned time for output

Report Task Options

Report: AIRNOW CSV Text Report Configure Report Query

Output Options

Printing Options Notification Options File Output Options

Output File Type: Export File as Text

File Name Construction

File Output Base Name: Append Date to File Name

File Extension: tn1 ☒ Append Date to Name Date Format: MMddyy

Save File Options

☒ Save Report to File Enabled File Output Path: Browse

Upload File Via FTP Options

☒ FTP Upload Enabled FTP Transfer Program: AIRNow

AQS – XML Format

- XML uses a series of ‘tags’ to identify exactly what embedded data is
- It makes XML files self-documenting,
- The list of allowed tags defines the *schema*. EPA and Exchange Network have defined schemas for AQS
- Additional tags cause XML files to be 10x to 50x larger than a delimited text file.

```
Report Output
<AirQualitySubmission1:Version="2.2" xsi:schemaLocation="http://www.exchangenetwork.net/schema/AQS/Submission/2
http://www.epa.gov/ttn/airs/airsaqs/XML/Submission/2/2/EN_AQS_AirQualitySubmission_v2.2.xsd">
  <FileGenerationPurposeCode>AQS</FileGenerationPurposeCode>
  <FileGenerationDateTime>2011-02-09T12:01:41.359375-05:00</FileGenerationDateTime>
  -<FacilitySiteList>
    -<SiteIdentifierDetails>
      <StateCode>17</StateCode>
      <CountyCode>095</CountyCode>
      <FacilitySiteIdentifier>0004</FacilitySiteIdentifier>
    </SiteIdentifierDetails>
  -<MonitorList>
    -<MonitorIdentifierDetails>
      <SubstanceIdentifier>44201</SubstanceIdentifier>
      <SubstanceOccurrenceCode>1</SubstanceOccurrenceCode>
    </MonitorIdentifierDetails>
  -<RawDataList>
    -<TransactionProtocolDetails>
      <MethodIdentifierCode>080</MethodIdentifierCode>
      <MeasureUnitCode>008</MeasureUnitCode>
      <DurationCode>1</DurationCode>
    </TransactionProtocolDetails>
  -<RawResults>
    <ActionCode>I</ActionCode>
    <SampleCollectionStartDate>2006-01-01</SampleCollectionStartDate>
    <SampleCollectionStartTime>00:00:00</SampleCollectionStartTime>
  -<RawValueDetails>
    <NullDataCode>A1</NullDataCode>
  </RawValueDetails>
</RawResults>
  -<RawResults>
    <ActionCode>I</ActionCode>
    <SampleCollectionStartDate>2006-01-01</SampleCollectionStartDate>
    <SampleCollectionStartTime>01:00:00</SampleCollectionStartTime>
  -<RawValueDetails>
    <MeasureValue>55</MeasureValue>
```

AQS - XML Format

- AirVision already provides for XML Submissions

The screenshot displays the AirVision software interface for generating an AQS XML Report. The interface is divided into several sections:

- Main Navigation:** A sidebar on the left with a tree view containing categories like Reports, Configuration Editors, Data Editors, Utilities, List Editors, and Help and Support. The 'Reports' category is expanded, showing various report types such as 24 Hour Averages Summary, 8 Hour Rolling Average Report, AIRNOW CSV Text Report, AIRNow Report, Annotations Report, AQI Reports, AQS Text Report, AQS XML Report (selected), Audit Trail Report, Calibration Results, Calibration Trend Graph, Configuration, Cumulative Report, Daily Parameter Report, Daily Summary Report, Internal Reports, LogBook Report, Logger Reports, Met Reports, Monthly Report, and Monthly Sample Data Report.
- AQS XML Report:** The main window displays the report criteria and parameter selection options.
 - Report Criteria:** Includes Date Range (Start Date: 04/01/2012 00:00, End Date: 04/30/2012 23:59), Average Interval (005m, 5 Minute SO2), and a selected interval of 001h (Hourly average of 60 minutes).
 - Parameter Selection:** A table with columns Site Name, Parameter Name, and AQS Parameter. The table lists various parameters for Ahquabi and Carpenter sites, with OZONE (O3) selected for Ahquabi.
 - Record Type Selection:** A list of checkboxes for selecting record types: Average Data Records, Sample Data Records, Composite Data Records, Precision Data Records, and Accuracy Data Records.
- Report Output:** The bottom section displays the generated XML code, which includes metadata and specific data points for the selected parameters and dates.

The XML output is as follows:

```
<?xml version="1.0" encoding="UTF-8" ?>
<AirQualitySubmission xmlns="http://www.epa.gov/ttn/airs/airsaqs/XML/Submission/2/2/EN_AQS_AirQualitySubmission_v2.2.xsd" >
  <FileGenerationPurposeCode>AQS</FileGenerationPurposeCode>
  <FileGenerationDateTime>2012-05-02T10:26:02.3248634-06:00</FileGenerationDateTime>
  <FacilitySiteList>
    <SiteIdentifierDetails>
      <StateCode>19</StateCode>
      <CountyCode>181</CountyCode>
      <FacilitySiteIdentifier>0022</FacilitySiteIdentifier>
    </SiteIdentifierDetails>
    <MonitorList>
      <MonitorIdentifierDetails>
        <SubstanceIdentifier>44201</SubstanceIdentifier>
        <SubstanceOccurrenceCode>1</SubstanceOccurrenceCode>
      </MonitorIdentifierDetails>
      <RawDataList>
        <TransactionProtocolDetails>
          <DurationCode>1</DurationCode>
          <MethodIdentifierCode>047</MethodIdentifierCode>
          <MeasureUnitCode>007</MeasureUnitCode>
        </TransactionProtocolDetails>
        <RawResults>
          <ActionCode>I</ActionCode>
          <SampleCollectionStartDate>2012-04-01</SampleCollectionStartDate>
        </RawResults>
      </RawDataList>
    </MonitorList>
  </FacilitySiteList>
</AirQualitySubmission>
```

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